Geometry Name_____ ID: 1

Ch. 2 Review

Date_____ Period____

Find the midpoint of the line segment with the given endpoints.

1) $(6, 1), (-10, -3)$ $m = \left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$

$m = \left(\frac{6+-10}{2}, \frac{1+-3}{2}\right)$

$\left(\frac{-4}{2}, \frac{-2}{2}\right)$

$m = -2, -1$

2) $(3, -4), (0, 10)$

$m = \left(\frac{3+0}{2}, \frac{-4+10}{2}\right)$

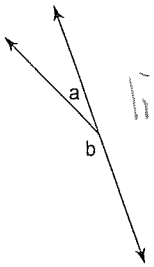
$= \left(\frac{3}{2}, \frac{6}{2}\right)$

$m = \frac{3}{2}, 3$

or $(1.5, 3)$

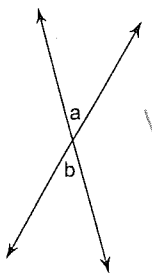
Name the relationship: complementary, linear pair, or vertical angles.

3)



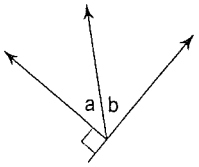
linear pair

4)



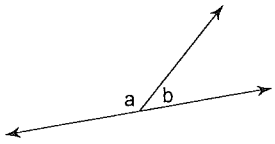
vertical angles

5)



Complementary

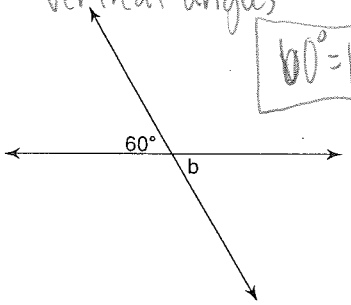
6)



linear pair

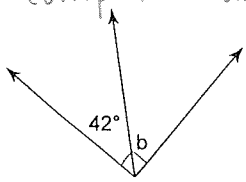
Find the measure of angle b.

7) vertical angles



$60° = b$

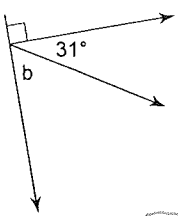
8) complementary



$42 + b = 90$

$b = 48°$

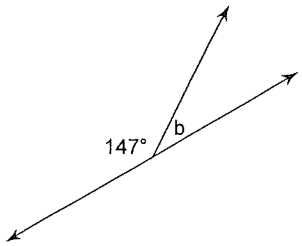
9)



$90 - 31 = 59$

$b = 59°$

10)

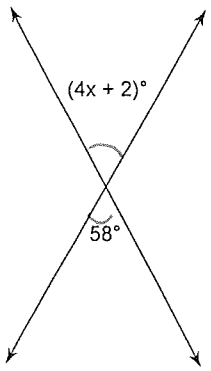


$180 = 147 + b$

$b = 33°$

Find the value of x.

11)



Vertical angles

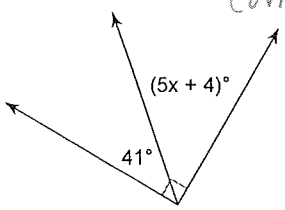
$4x+2=58$

$-2 \quad -2$

$\frac{4x}{4} = \frac{56}{4}$

$x=14$

12)



Complementary

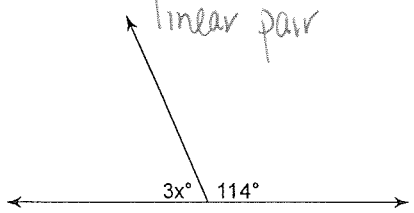
$5x+4+41=90$

$5x+45=90$

$5x=45$

$x=9$

13)



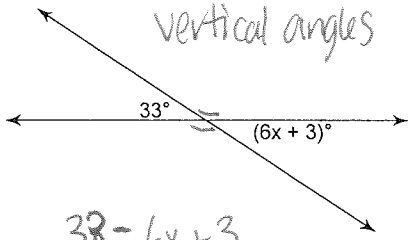
linear pair

$3x+114=180$

$3x=66$

$x=22$

14)



vertical angles

$33=6x+3$

$30=6x$

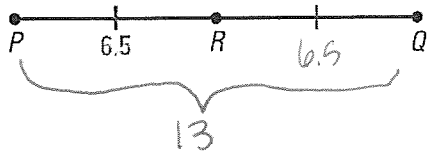
$5=x$

Find the distance between each pair of points.

15) $(-4, 4), (5, -8)$ $d=15$

16) $(-7, -6), (0, 3)$ $d=\sqrt{130}$

17. R is the midpoint of $\overline{PQ}$. Find RQ and PQ.

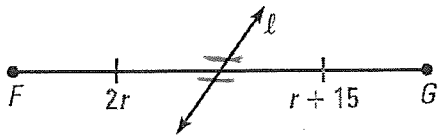


$RQ = 6.5$

$PQ = 6.5 + 6.5$

$PQ = 13$

18. Line ℓ bisects $\overline{FG}$. Find the value of r.

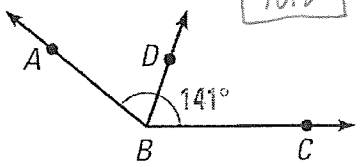


$2r = r + 15$

$-r \quad -r$

$r = 15$

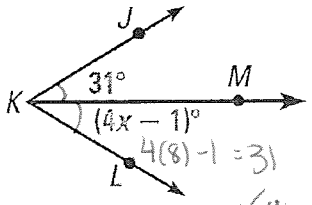
19. $\overrightarrow{BD}$ bisects $\angle ABC$. Find $m\angle ABD$ and $m\angle DBC$.



$m\angle ABD = 70.5°$

$\frac{141}{2} = 70.5$

20. $\overrightarrow{KM}$ bisects $\angle JKL$. Find the value of x.



$4(8) - 1 = 31$ ✓☺

$31 = 4x - 1$

$+1 \quad +1$

$\frac{32}{4} \quad \frac{4x}{4}$

$x = 8$

21. $\angle D$ is a supplement of $\angle E$, and $m\angle D = 29°$.

Find $m\angle E$.

$151°$

$\angle D + \angle E = 180$

$29 + ? = 180$

$180 - 29 = 151$

22. $\angle F$ is a complement of $\angle G$, and $m\angle G = 76°$.

Find $m\angle F$.

$14°$

$\angle F + \angle G = 90°$

$? + 76 = 90$

$90 - 76 = 14$